being steep on both sides and the bottom nearly level, its width, as shown by the lines of debris on the slopes, was about one hundred and seventy-five feet and for the greater part of that distance the depth was approximately seven feet. This gives a section of over a thousand square feet, and the velocity of its discharge must have been frightful over the steep incline of its bed. To the immense volume now in motion there was added all the mass of rain and hail that fell on the area this side of the gap.

In its course through the gap the flood tore large masses of the tenacious black clay from the banks, and the current, with resistless power, propelled them down the stream, turning them over and over, abrading the edges at every bound, until they were converted into balls and cylinders, and these nodules rolling in the gravel gained a rough, stony coating making them seem like rock-hewn cannon shot. In many places above the town these curious masses, ranging in size from a barrel to an apple, gave to the ground the look of an old battle field strewn with shot. These clay nodules when imbedded in sand and hardened by lapse of time have in other places caused great speculation, and brought out many deep theories respecting their origin. An opportunity is here offered to our people to catch nature in the act of storing them in the newest strata.

Passing out of the gap the angry current entered the Roberts ranch and soon after, encountering rising ground, was divided; one portion, and that by far the larger one, passed on in the direction of the ranch house, threatening to sweep it from its foundations, but soon it was again divided, and only a part approached the house. The house occupied higher ground and was left untouched, but the owner remarked, with feeling, that he wished his corrals and garden had been put higher up too. This main stream made a sharp bend below the Roberts house, and now turned southwestward and began to spread out over the flat surface until, when near the city limits, it reached to within a block of Cascade avenue. No water from Templeton's Gap passed westward as far as this avenue. A slight ridge, almost imperceptible to the casual observer, runs from a point a short distance west of Colonel Ensign's house to the fair ground west of the windmill, and owing to the diversion of the waters by this rise Tejon street and Nevada avenue escaped the impending danger.

The stream which branched off at the ranch house made its way southward and finally joined the main stream we have just followed, north of Colonel Ensign's house. At the eastern edge of the Roberts' ranch where the stream first divided, vast numbers of the clay nodules were left stranded in the slack water. We have now to follow this first separated portion of the divided river. It passed in a southwestward direction close to the road leading to Templeton's Gap, and spreading out became nearly a thousand feet wide a little way above the city limits. Again rising ground caused the waters to part; a large portion passing to the south and east, entered Shook's run, where it is crossed by the main irrigation ditch, and thus relieved the flooded streets of a vast volume of hail and water; the other branch made its way onward until it joined the main stream just above the Hooper House. Now, all the divided forces of the flood united were gathered for the final onslaught upon the town. The direction of its course was such as to cause its central current to pass close to the Hooper House and directly for the fatal spot upon which stood Mr. Eaton's residence.

The spreading out of the waters over the very extensive area north of the town must have greatly retarded the rapid progress of the flood and caused the flow through the town to be comparatively slow, and hence much less destructive than it would have been had it been confined to a narrow channel.

The flood which filled the Monument bed was probably due to similar conditions upon areas other than those above described. Large stretches north and northeast of the fair grounds empty their quotas into it.

The observer on the summit of Pike's Peak, Colorado, notes the following in his daily journal:

On the morning of the 26th Colorado Springs appeared as though the town had been visited by a "water-spout" or "cloud-burst." Upon closer examination with the telescope there were observed, about two miles to the northeast of the city, great banks of sleet, from which were flowing large streams of water; immense pools of water appeared in all the principal streets of the city and the first floors of many dwellings were wholly under water.

Baltimore, Maryland: a heavy rainfall occurred in this city on the afternoon of the 26th. In the lower part of the northwestern section of the city about thirty houses were flooded; in some instances the water covering the first floors.

Reading, Pennsylania: during the storm on the night of the 26–27th, two dams at Flying Hill Park gave way, and resulted in the loss of bridges, fencings, etc.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for July, 1885, with the telegraphic reports for the succeeding thirty-two hours, shows the general average percentage of verifications to be 84.62 per cent. The percentages for the four elements are: Weather, 83.63; direction of the wind, 84.89; temperature, 85.43; barometer, 82.78 per cent. By geographical districts, they are: For New England, 74.22; middle Atlantic states, 83.87; south Atlantic states, 85.93; eastern Gulf states, 89.75; western Gulf states, 87.86; lower lake region, 80.16; upper lake region, 84.16; Ohio valley and Tennessee, 84.41; upper Mississippi valley, 83.39; Missouri valley, 79.54; north Pacific coast region, 88.45; middle Pacific coast region, 92.11; south Pacific coast region, 95.47. There were four omissions to predict, out of 3,352, or 0.12 per cent. Of the 3,348 predictions that have been made, eighty-nine, or 2.66 per cent., are considered to have entirely failed; one hundred and fifty-nine, or 4.75 per cent., were one-fourth verified; three hundred and eighty-two, or 11.42 per cent., were one-half verified; four hundred and sixty, or 13.76 per cent., were three-fourths verified; 2,254, or 67.41 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

Special predictions of the weather and temperature have also been made during the month each day for certain localities. The percentages of verifications of these special predictions as made by this office, and in some cases by the observers, are as follows:

Richmond, Virginia, 90.73; Meadville, Pennsylvania, beginning July 4th, 81.25 (as verified by observer, 72.30); Oil City, Pennsylvania, beginning on the 10th, 82.73 (as verified by observer, 100); Columbus, Ohio, 83.06 (as verified by the Ohio Meteorological Bureau, 82.0); Bucyrus, Ohio, beginning on the 2d, 83.75; Albany, New York, 80.64; Cincinnati, Ohio, 80.64; Buffalo, New York, 81.45; Indianapolis, Indiana, 82.26; Chicago, Illinois, 70.16; Saint Louis, Missouri, 74.19; Cairo, Illinois, beginning on the 26th, 83.33; Boston, Massachusetts, and New Haven, Connecticut, 79.03 (as verified by observer, 58.06); Louisville, Kentucky, 75.40; Detroit, Michigan, 79.84; Toledo, Ohio, 77.42; Milwaukee, Wisconsin, 65.32; Jacksonville, Florida, 66.13; Rochester and Oswego, New York, beginning on the 29th, 66.67; Auburn, Alabama, 95.50; Kansas, Indian Territory and western Missouri, 82.26; central Illinois and western Indiana, beginning on the 4th, 78.54; northwestern Ohio and eastern Indiana, beginning on the 4th, 83.48; Omaha, 65.74; Arkansas, 75.46; Georgia, 88.36; Washington, District of Columbia, and Baltimore, Maryland, 80.42; Colorado (for sixteen days), 75.00; New York and Philadelphia, 76.21; Tennessee, beginning on the 4th, 86.46; and Dallas, Texas, beginning on the 18th, 85.42 per cent (as verified by observer, 73.33).

NOTE.—The official "Indications" issued by the Signal Service, beginning with the month of July, 1885, are for a period of thirty-two hours, instead of twenty-four hours, as heretofore.

CAUTIONARY SIGNALS.

During July, 1885, sixty-four cautionary signals were ordered. Of these, thirty-eight, or 59.37 per cent., were justified by winds of twenty-five miles or more per hour, at or within one hundred miles of the station. Eleven cautionary off-shore signals were ordered, of which number, ten, or 91.11 per cent., were justified as to direction, but none were justified as to velocity. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Two signals were ordered late. In thirty eight cases winds of twenty-five miles or more per hour were reported for which no signals were ordered.

RAILWAY WEATHER SIGNALS.

Prof. P. H. Mell, jr., director of the "Alabama Weather Service," in his report for July, states:

The verification of prediction for the whole area was 98 per cent. for temperature and 93 per cent. for weather.

The following roads comprise this system: Western, of Alabama; South and North; Montgomery and Mobile; Mobile and Girard; Georgia Pacific; East Tennessee, Virginia and Georgia; Memphis and Charleston; Columbus Western; Atlanta and West Point, of Georgia; Northeastern, of Georgia.

The July, 1885, report of the "Ohio Meteorological Bureau," under direction of Prof. B. F. Thomas, contains the following:

The verification of railway signals for the month was: for temperature, 91 per cent.; for weather, 73 per cent.